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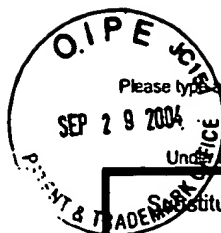
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)			<b>Complete if Known</b>		
			Application Number	09/905,718	
			Filing Date	05/16/2001	
			First Named Inventor	Willson et al.	
			Group Art Unit	1762	
			Examiner Name	Pianalto, Bernard D.	
Sheet	1	of	7	Attorney Docket Number	PA27-02Q12

U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
	B1	4,070,116		Frosch et al.	01-24-1978	
	B2	4,600,309		Fay	07-15-1986	
	B3	4,848,911		Uchida et al.	07-18-1989	
	B4	5,074,667		Miyatake	12-24-1991	
	B5	5,148,036		Matsugu et al.	09-15-1992	
	B6	5,148,037		Suda et al.	09-15-1992	
	B7	5,151,754		Ishibashi et al.	09-29-1992	
	B8	5,179,863		Uchida et al.	01-19-1993	
	B9	5,376,810		Hoenk et al.	12-27-1994	
	B10	5,424,549		Feldman	06-13-1995	
	B11	5,670,415		Rust	09-23-1997	
	B12	5,743,998		Park	04-28-1998	
	B13	5,855,686		Rust	01-05-1999	
	B14	5,948,219		Rohner	09-07-1999	
	B15	6,035,805		Rust	03-14-2000	
	B16	6,150,680		Eastman et al.	11-21-2000	
	B17	6,326,627	B1	Putvinski et al.	12-04-2001	
	B18	2002/0132482	A1	Chou	09-19-2002	
	B19	2002/0167117	A1	Chou	11-14-2002	
	B20	6,482,742	B1	Chou	11-19-2002	
	B21	6,534,418	B1	Plat et al.	03-18-2003	
	B22	6,541,360	B1	Plat et al.	04-01-2003	
	B23	2003/0081193	A1	White et al.	05-01-2003	
	B24	2003/0080471	A1	Chou	05-01-2003	
	B25	2004/0036201	A1	Chou et al.	02-26-2004	
	B26	5,468,542		Crouch	11-21-1995	
	B27	5,366,851		Novembre	11-22-1994	
	B28	5,362,606		Hartney et al.	11-08-1994	
	B29	5,324,683		Fitch et al.	06-28-1994	
	B30	5,212,147		Sheats	05-18-1993	
	B31	5,458,520		DeMercurio et al.	10-17-1995	
	B32	5,453,157		Jeng	09-26-1995	
	B33	5,439,766		Day et al.	08-08-1995	
	B34	5,431,727		Austin et al.	07-11-1995	
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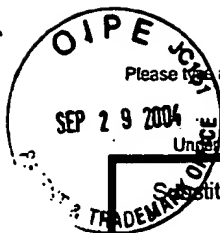
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12	B35	5,422,295		Choi et al.	06-06-1995	
	B36	5,421,981		Leader et al.	06-06-1995	
	B37	5,417,802		Obeng	05-23-1995	
	B38	5,380,474		Rye et al.	01-10-1995	
	B39	5,374,454		Bickford et al.	12-20-1994	
	B40	5,330,881		Sidman et al.	07-19-1994	
	B41	5,328,810		Lowrey et al.	07-12-1994	
	B42	5,318,870		Hartney	06-07-1994	
	B43	5,244,818		Jokerst et al.	09-14-1993	
	B44	5,242,711		DeNatale et al.	09-07-1993	
	B45	5,240,878		Fitzsimmons et al.	08-31-1993	
	B46	5,108,875		Thackeray et al.	04-28-1992	
	B47	5,053,318		Gulla et al.	10-01-1991	
	B48	4,964,945		Calhoun	10-23-1990	
	B49	4,908,298		Hefferon et al.	03-13-1990	
	B50	4,921,778		Thackeray et al.	05-01-1990	
	B51	4,919,748		Bredbenner et al.	04-24-1990	
	B52	3,783,520		King	01-08-1974	
	B53	4,119,688		Hiraoka	10-10-1978	
	B54	4,201,800		Alcorn et al.	05-06-1980	
	B55	4,426,247		Tamamura et al.	01-17-1984	
	B56	4,507,331		Hiraoka	03-26-1985	
	B57	4,552,833		Ito et al.	11-12-1985	
	B58	4,657,845		Frechet et al.	04-14-1987	
	B59	4,692,205		Sachdev et al.	09-08-1987	
	B60	4,707,218		Giammarco et al.	11-17-1987	
	B61	4,737,425		Lin et al.	04-12-1988	
	B62	4,808,511		Holmes	02-28-1989	
	B63	4,826,943		Ito et al.	05-02-1989	
	B64	4,857,477		Kanamori	08-15-1989	
	B65	4,891,303		Garza et al.	01-02-1990	
	B66	4,931,351		McColgin et al.	06-05-1990	
	B67	4,976,818		Hashimoto et al.	12-11-1990	
	B68	4,980,316		Huebner	12-25-1990	
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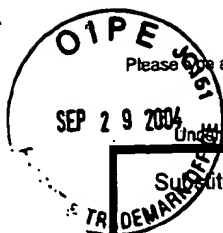
Substitute for form 1449A/PTO				<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)				<b>Application Number</b>	09/905,718
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				<b>Group Art Unit</b>	1762
				<b>Examiner Name</b>	Pianalto, Bernard D.
<b>Sheet</b>	3	<b>of</b>	7	<b>Attorney Docket Number</b>	PA27-02Q12

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		Number	Kind Code <sup>2</sup> (if known)			
	B69	4,999,280		Hiraoka	03-12-1991	
	B70	5,071,694		Uekita et al.	12-10-1991	
	B71	5,169,494		Hashimoto et al.	12-08-1992	
	B72	5,173,393		Sezi et al.	12-22-1992	
	B73	5,198,326		Hashimoto et al.	03-30-1993	
	B74	5,234,793		Sebald et al.	08-10-1993	
	B75	5,314,772		Kozicki et al.	05-24-1994	
	B76	5,527,662		Hashimoto et al.	06-18-1996	
	B77	5,654,238		Cronin et al.	08-05-1997	
	B78	5,700,626		Lee et al.	12-23-1997	
	B79	5,736,424		Prybyla et al.	04-07-1998	
	B80	5,895,263		Carter et al.	04-20-1999	
	B81	5,907,782		Wu	05-25-1999	
	B82	5,926,690		Toprac et al.	07-20-1999	
	B83	5,948,570		Kornblit et al.	09-07-1999	
	B84	6,033,977		Gutsche et al.	03-07-2000	
	B85	6,096,655		Lee et al.	08-01-2000	
	B86	6,150,231		Muller et al.	11-21-2000	
	B87	6,245,581	B1	Bonser et al.	06-12-2001	
	B88	6,274,294	B1	Hines	08-14-2001	
B89	6,329,256	B1	Ibok	12-11-2001		
B90	6,383,928	B1	Eissa	05-07-2002		
B91	6,387,783	B1	Furukawa et al.	05-14-2002		
B92	6,388,253	B1	Su	05-14-2002		
B93	6,391,798	B1	DeFelice et al.	05-21-2002		
B94	6,455,411	B1	Jiang et al.	09-24-2002		
B95	6,489,068	B1	Kye	12-03-2002		
B96	6,514,672	B2	Young et al.	02-04-2003		
B97	6,561,706	B2	Singh et al.	05-13-2003		
B98	6,565,928	B2	Sakamoto et al.	05-20-2003		
B99	2003/011368	A1	Mancini et al.	06-19-2003		
B100	2003/0129542	A1	Shih et al.	07-10-2003		
B101	6,632,742	B2	Yang et al.	10-14-2003		
B102	6,635,581	B2	Wong	10-21-2003		
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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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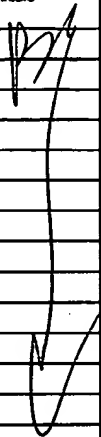
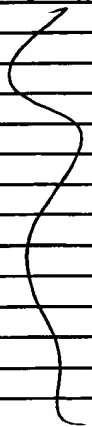
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### Complete if Known

Application Number	09/905,718
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		Number	Kind Code* (if known)				
	B103	6,646,662	B1	Nebashi et al.	11-11-2003		
	B104	6,677,252	B2	Marsh	01-13-2004		
	B105	2004/0029041	A1	Shih et al.	02-12-2004		
	B106	6,703,190	B2	Eilan et al.	03-09-2004		
	B107	6,716,767	B2	Shih et al.	04-06-2004		
	B108	6,730,256	B1	Bloomstein et al.	05-04-2004		
	B109	6,737,202	B2	Gehoski et al.	05-18-2004		
	B110	6,743,713	B2	Mukherjee-Roy et al.	06-01-2004		
	B111	6,676,983	B1	Fujiyama et al.	07-27-2004		
	B112	6,770,852	B1	Steger	08-03-2004		
	B113	6,777,170	B1	Bloomstein et al.	08-17-2004		
	B114	6,776,094	B1	Whitesides et al.	08-17-2004		
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Sheet

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of

**7**

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Application Number

09/905,718

**Filing Date**

05/16/2001

**First Named Inventor**

Willson et al.

### Group Art Unit

1762

**Examiner Name**

**Pianalto, Bernard D.**

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## FOREIGN PATENT DOCUMENTS

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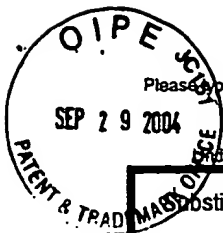
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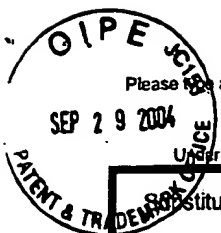
OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	B122	Abstract of Japanese Patent 63-138730 <i>No date available</i>	
	B123	Abstract of Japanese Patent 55-88332 <i>" " "</i>	
	B124	Abstract of Japanese Patent 57-7931 <i>" " "</i>	
	B125	Abstract of Japanese Patent 02-92603. <i>" " "</i>	
	B126	Translation of Japanese Patent 02-92603. <i>" " "</i>	
	B127	Abstract of Japanese Patent 02-24848. <i>" " "</i>	
	B128	Translation of Japanese Patent 02-24848. <i>" " "</i>	
	B129	HEIDARI et al., "Nanoimprint Lithography at the 6 in. Wafer Scale," Journal of Vacuum Science Technology, Nov/Dec 2000, pp. 3557-3560, vol. B, no. 18(6)	
	B130	NERAC.COM Retro Search, "Reduction of Dimension of Contact Holes", August 31, 2004 <i>no page numbers</i>	
	B131	NERAC.COM Retro Search, "Trim Etching of Features Formed on an Organic Layer", September 2, 2004 <i>no page numbers</i>	
	B132	NERAC.COM Retro Search, "Multi-Layer Resists", September 2, 2004 <i>no page numbers</i>	

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	B133	HU et al., "Flourescence Probe Techniques (FPT) for Measuring the Relative Efficiencies of Free-Radical Photoinitiators", s0024-9297(97)01390-9; "Macromolecules" 1998, vol. 31, no. 13, pp. 4107-4113, 1998 American Chemical Society. Published on Web 05/29/1998	
	B134	FEYNMAN, Richard P., "There's Plenty of Room at the Bottom—An Invitation to Enter a New Field of Physics," 12 pp [online]Retreived 9/23/04 from URI: <a href="http://www.zyvex.com/nanotech/feynman.html">http://www.zyvex.com/nanotech/feynman.html</a> .	
	B135	Communication Relating to the Results of the Partial International Search; International Appl. No. PCT/US2002/015551.	

Examiner Signature		Date Considered	6/1/04
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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

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Sheet

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of

5

**Complete if Known**

APPLICATION NUMBER	09/905,718
FILING DATE	05/16/2001
FIRST NAMED INVENTOR	Willson et al.
Group Art Unit	1762
Examiner Name	Weeks, Timothy H.
Attorney Docket Number	PA27-02V12

**U.S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code* (if known)			

	D1	5,425,848		Haisma et al.	6/20/1995	
	D2	6,309,580	B1	Chou	10/30/2001	
	D3	6,517,977	B2	Resnick et al.	2/11/2003	
	D4	6,696,220	B2	Bailey et al.	2/24/2004	
	D5	2002/0177319	A1	Chou	11/28/2002	
	D6	6,713,238	B1	Chou et al.	3/30/2004	
	D7	2004/0009673	A1	Sreenivasan et al.	1/15/2004	
	D8	6,518,189	B1	Chou	2/11/2003	
	D9	2003/0080471	A1	Chou	5/1/2003	
	D10	2004/0036201	A1	Chou et al.	2/26/2004	
	D11	2004/0192041	A1	Jeong et al.	9/30/2004	
	D12	6,828,244	B2	Chou	12/7/2004	
	D13	6,809,356	B2	Chou	10/26/2004	
	D14	2004/0197843	A1	Chou et al.	10/7/2004	
	D15	2004/0156108	A1	Chou et al.	8/12/2004	
	D16	2004/0137734	A1	Chou et al.	7/15/2004	
	D17	2004/0131718	A1	Chou et al.	7/8/2004	
	D18	2004/0118809	A1	Chou et al.	6/24/2004	

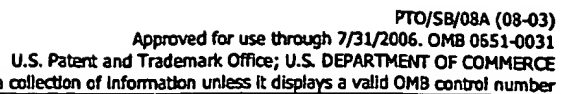
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Sheet	2	of	5
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<b>APPLICATION NUMBER</b>	09/905,718
<b>FILING DATE</b>	05/16/2001
<b>FIRST NAMED INVENTOR</b>	Willson et al.
Group Art Unit	1762
Examiner Name	Meeks, Timothy H.
Attorney Docket Number	PA27-02V12

D19	2004/0046288	A1	Chou	3/11/2004
D20	2003/0080472	A1	Chou	5/1/2003
D21	2003/0034329	A1	Chou	2/20/2003
D22	2002/0042027	A1	Chou et al.	4/11/2002
D23	2004/0200411	A1	Willson et al.	10/14/2004
D24	10/687,562		Cherala et al.	10/16/2003
D25	6,580,172	B2	Mancini et al.	6/17/2003
D26	10/923,629		Sreenivasan et al.	8/20/2004
D27	4,512,848		Deckman et al.	4/23/1985
D28	6,517,995	B1	Jacobenson et al.	2/11/2003
D29	2004/0110856	A1	Young et al.	6/10/2004
D30	5,028,366		Harakal et al.	7/2/1991
D31	5,601,641		Stephens	2/11/1997
D32	5,849,209		Kindt-Larsen et al.	12/15/1998
D33	5,849,222		Jen et al.	12/15/1998

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Sheet	3	of	5
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<b>APPLICATION NUMBER</b>	09/905,718
<b>FILING DATE</b>	05/16/2001
<b>FIRST NAMED INVENTOR</b>	Willson et al.
Group Art Unit	1762
Examiner Name	Meeks, Timothy H.
Attorney Docket Number	PA27-02V12

## FOREIGN PATENT DOCUMENTS

[illegible]

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				<b>FILING DATE</b>	05/16/2001
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				<b>Group Art Unit</b>	1762
				<b>Examiner Name</b>	Meeks, Timothy H.
				<b>Attorney Docket Number</b>	PA27-02V12
<b>Sheet</b>	<b>4</b>	<b>of</b>	<b>5</b>		

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite, No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>

	D42	Chou, Nanoimprint Lithography and Lithographically Induced Self-Assembly, MRS Bulletin, pp. 512 - 517, 7/1/2001	
	D43	Choi et al., Design of Orientation Stages for Step and Flash Imprint Lithography, Precision Engineering, pp. 192 - 199, 1/1/2001	
	D44	Colburn et al., Step and Flash Imprint Lithography for sub-100 nm Patterning, Proceedings of SPIE Vol. 3997, pp. 453 - 457, 1/1/2000	
	D45	Johnson et al., Advances in Step and Flash Imprint Lithography, SPIE Microlithography Conference, 2/23/2003 <i>no page numbers</i>	
	D46	Chou et al., Ultrafast and Direct Imprint of Nanostructures in Silicon, Nature, Col. 417, (June 2002), pp. 835-837, 6/1/2002	
	D47	Chou et al., Nanoimprint Lithography, Journal of Vacuum Science Technolgy B 14(16), pp. 4129-4133, 11/1/1996	
	D48	Colburn et al., Development and Advantages of Step-and-Flash Lithography, Solid State Technology, 7/1/2001 <i>no page numbers</i>	
	D49	Colburn et al., Characterization and Modeling of Volumetric and Mechanical Properties for Step and Flash Imprint Lithography Photopolymers, Journal of Vacuum Science Technology, Vol b. 19(6), 11/1/2001 <i>no page numbers</i>	
	D50	Bailey et al., Step and Flash Imprint Lithography: Defect Analysis, Journal of Vacuum Science, B 19(6), pp. 2806-2810, 11/1/2001	

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(use as many sheets as necessary)				<b>Group Art Unit</b>	1762
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<b>Sheet</b>	5	<b>of</b>	5	<b>Attorney Docket Number</b>	PA27-02V12

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>

	D51	Bailey et al., Step and Flash Imprint Lithography: Template Surface Treatment and Defect Analysis, Journal of Vacuum Science, B 18(6), pp. 3572-3577, 11/1/2000	
	D52	Schneider et al., Stripes of Partially Fluorinated Alkyl Chains: Dipolar Langmuir Monolayers <i>no date available + no page numbers</i>	

<b>Examiner Signature</b>		<b>Date Considered</b>	5/24/01
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